

Date: Friday, 04/04/2008 9:49:50 AM
 User: Julie.Lecocq

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services Drawing Name : SKID TUBE ASSEMBLY
 Job Number : 38377
 Estimate Number : 10023
 P.O. Number :
 This Issue : 04/04/2008 S.O. No. :
 Prsht Rev. : NC Drawing Number : D205634041
 First Issue : 04/04/2008 Type : LANDING GEAR Project Number : D2580 REV D
 Previous Run : 38376 Drawing Revision : D
 Material :
 Due Date : 05/05/2008 Qty: 1 Um: Each

Written By :
 Checked & Approved By : JD 08.04.4
 Comment : Est Rev:N 02.08.28 FP was QC5 in Step 27; Added QC5 to Step 30 KJ
 Est Rev: O 06.02.28 Added paperwork EC
 Est Rev:P 07-07-09 SS Wearplates & Gaskets JLM

Additional Product

Job Number:



Seq. #: Machine Or Operation: Description :

1.0 DC DOCUMENT CONTROL



Comment: DOCUMENT CONTROL
 Photocopy D205-634 bluefile & type labels per PPP D205-634 CHG002

08/04/14 JD

2.0 D25001190 Ext'n - 'I' Beam Tube 4"



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)
 Pick:

Qty	Part Number	Description	Batch
1	D2500-1-190	Skid Tube Extrusion	34729

RT 08-04-10

3.0 D2596 205 Web



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)
 Pick:

Qty	Part Number	Description	Batch
1	D2596	205 Web	38394

RT 08-04-12

4.0 SKIDTUBES 1 SKIDTUBESS RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

- 1- Inspect mat'l D2500-1-190 for damage
- 2-Cut D2500-1-190 per Dwg D2580 if necessary Deburr ends
- 3-Acid etch and Alodine tube per QSI 005 4.1

RT 08-04-10

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE		By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 04/04/2008 9:49:51 AM
User: Julie Lecocq

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SKID TUBE ASSEMBLY

Job Number: 38377

Part Number: D205634041

Job Number:



Seq. #:	Machine Or Operation:	Description :
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13.0	QC10	VISUAL INSPECTION OF GROUND WELDS
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Comment: VISUAL INSPECTION OF GROUND WELDS

PD 08-04-15 / 08/04/15 (X)

14.0	QC5	INSPECT WORK TO CURRENT STEP
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Comment: INSPECT WORK TO CURRENT STEP

08/04/15 (X)

15.0	HAND FINISHING1	HAND FINISHING RESOURCE #1
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Comment: HAND FINISHING RESOURCE #1
Pressure wash as per QSI 005

BR 08-04-17

①

16.0	POWDER COATING	POWDER COATING
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Comment: POWDER COATING
Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

m/07550

FL 08/04/17 (X)

17.0	QC3	INSPECT POWDER COAT/CHEMICAL CONVERSION
------	-----	---



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

08-04-17 (X)

18.0	D2855	Cap
------	-------	-----



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)
Cap
Batch: 1337570

MSL

19.0	AN35A	Bolt
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Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)
Bolt
Batch: M100188

MSL

20.0	AN960JD10L	Washer
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Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)
Washer
Batch: M104885

MSL

08-04-17 (X)

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE		By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 04/04/2008 9:49:51 AM
User: Julie Lecocq

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SKID TUBE ASSEMBLY

Job Number: 38377

Part Number: D205634041

Job Number:



Seq. #:	Machine Or Operation:	Description :
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21.0	ALS71032130	Insert
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Comment: Qty.: 50.0000 Each(s)/Unit Total : 50.0000 Each(s)

Insert

Batch: M105855

JS

22.0	AN3C4A	BOLT
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Comment: Qty.: 50.0000 Each(s)/Unit Total : 50.0000 Each(s)

BOLT

Batch: M1107376

JS

23.0	AN960C10L	washer
------	-----------	--------



Comment: Qty.: 50.0000 Each(s)/Unit Total : 50.0000 Each(s)

washer

Batch: M1107376

JS

24.0	D356613	GASKET
------	---------	--------



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

GASKET

Batch: B32744

JS

25.0	D35665	GASKET
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Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

GASKET

Batch: B338298

JS

26.0	D35661	GASKET
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Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

GASKET

Batch: B338048

JS

27.0	D356413	WEARSHOE
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Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

WEARSHOE

Batch: B337561

JS

048 04-17

(X)

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE		By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

Date: Friday, 04/04/2008 9:49:51 AM
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Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SKID TUBE ASSEMBLY

Job Number: 38377

Part Number: D205634041

Job Number:



Seq. #:	Machine Or Operation:	Description :
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28.0	D356411	WEARSHOE
------	---------	----------



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

WEARSHOE

Batch: B37811

SL

29.0	D35649	WEARSHOE
------	--------	----------



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

WEARSHOE

Batch: B37812

SL

30.0	D35645	WEARSHOE
------	--------	----------



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

WEARSHOE

Batch: B38297

SL

31.0	D25943	O-Ring
------	--------	--------



Comment: Qty.: 16.0000 Each(s)/Unit Total : 16.0000 Each(s)

O-Ring

Batch: B29908

SL

32.0	D25941	Plug
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Comment: Qty.: 16.0000 Each(s)/Unit Total : 16.0000 Each(s)

Plug

Batch: B37926

SL

33.0	HAND FINISHING1	HAND FINISHING RESOURCE #1
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Comment: HAND FINISHING RESOURCE #1

1-Install inserts & wearplates & Gaskets as per Dwg. D2580. Use a drop of Sikaflex on insert holes before installing wearplates

A/R Sikaflex-291 M1103397

Sikaflex expire date: 08/10

2-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594-1 plugs as per Dwg D2580

3-Inspect for foreign object per QSI 024

SL

08.04.12

SL

08.04.12 (X)

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE		By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)							
DATE	STEP	Description of NC Section A	Corrective Action		Section B		Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date				

NOTE: Date & initial all entries

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Drawing Name: SKID TUBE ASSEMBLY

Job Number: 38377

Part Number: D205634041

Job Number:



Seq. #:

Machine Or Operation:

Description :

4-Install 2855 Aft Cap as per Dwg D2580 and seal Fwd Step & Aft Cap with Sikaflex. Clean excess adhesive

A/R Sikaflex-291

Sikaflex expire date: 08/10

M1073973 218 08-04-17 (X)

5-Wing Walk as per Dwg D2580 and QSI 005 4.4

Batch:

M106894 m-1 08/04/17 (1X)

34.0

QC5

INSPECT WORK TO CURRENT STEP



08/04/18 @



Comment: Inspect Aft Cap, Fwd Step and Wing Walk of work to Current Step Inspect for Foreign objects per QSI 024

35.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D205-634-041

Location:

PPP Rev:

B Rev H

8/4/18 SCATX

36.0

QC21

FINAL INSPECTION/W/O RELEASE



08/04/219

Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



MR 08-04-18

B38377

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE		By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B		Sign & Date	Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng				

NOTE: Date & initial all entries



DESIGN <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D2580	REV. D SHEET 1 OF 3
DATE 07.02.27		TITLE 205 SKIDTUBE ASSEMBLY	SCALE NTS
A	96.09.16	NEW ISSUE	
B	96.12.02	AS MANUFACTURED	
C	98.08.26	REDRAWN, INCLUDED DEO 9094/9097	
D	07.02.27	CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/9183	

RELEASED
07-06-28 *[Signature]*

QTY -041	QTY -045	Part Number	Description
X		D2580-041	SKIDTUBE ASSEMBLY
	X	D2580-045	SKIDTUBE ASSEMBLY
1	1	D2500-1-190	EXTRUSION
1	1	D2576-3	STEP
20	24	D2579	CROSS BOLT SPACER
16	16	D2594-1	PLUG
16	16	D2594-3	O-RING
1	1	D2596	205 WEB
1	1	D2855	AFT CAP
1	1	D3564-5	WEARSHOE
1	1	D3564-9	WEARSHOE
1	1	D3564-11	WEARSHOE
1	1	D3564-13	WEARSHOE
2	2	D3566-1	GASKET
1	1	D3566-5	GASKET
1	1	D3566-13	GASKET
50	50	ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or AELS-1032-130	INSERT
50	50	AN3C4A	BOLT
2	2	AN3-5A	BOLT
50	50	AN960C10L	WASHER
2	2	AN960JD10L	WASHER

GENERAL NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) ALL DIMENSIONS ARE IN INCHES
- 3) INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 4) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 5) USE DART DRILL TEMPLATE TD2577-205 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION D-D (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND AN960C10L WASHERS WITH SIKAFLEX-241/-291.
- 6) WELDING TO BE DONE PER DART QSI 004.
- 7) FINISH:
SEE NOTES ON
PAGE 2 FOR D2580-041 AND
PAGE 3 FOR D2580-045
- 8) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES).

SHOP COPY
RETURN TO
ENGINEERING
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SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

NO. **38377**

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NO. 147

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliot
Job number: 38305
Part number: D205 R41 041
Description: skid tube 205
Welding Process: Tig[☒] Mig[]
Base material: Aluminium
Current: AC[☒] DC[]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[]
Penetration: pass[☒] fail[]

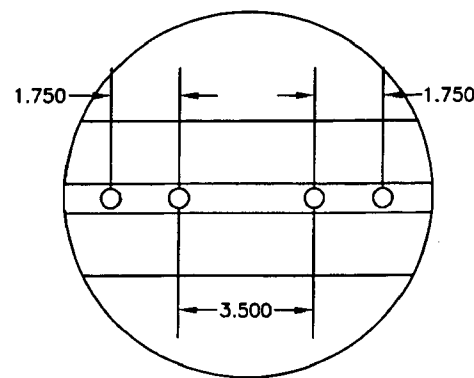
UNACCEPTABLE

Cracks: pass[☒] fail[]
Undercut: pass[☒] fail[]
Pin holes: pass[☒] fail[]
Overlap (cold lap): pass[☒] fail[]
Porosity (surface): pass[☒] fail[]
Coloration: pass[☒] fail[]

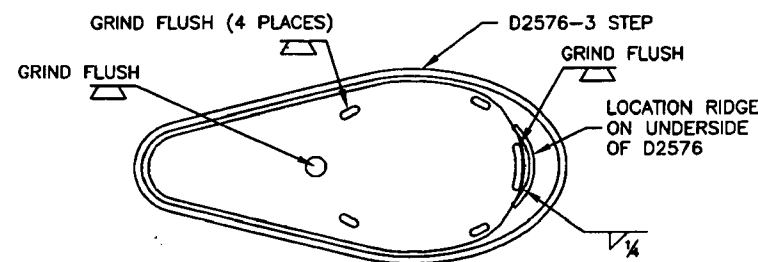
Qualifier Pat. Dival Date of Test Coupon 08-04-14
Welder Barclay Elliot Date of Test Coupon 08-04-14

The above named individual is qualified in accordance with AWS D17.1.2001 to weld

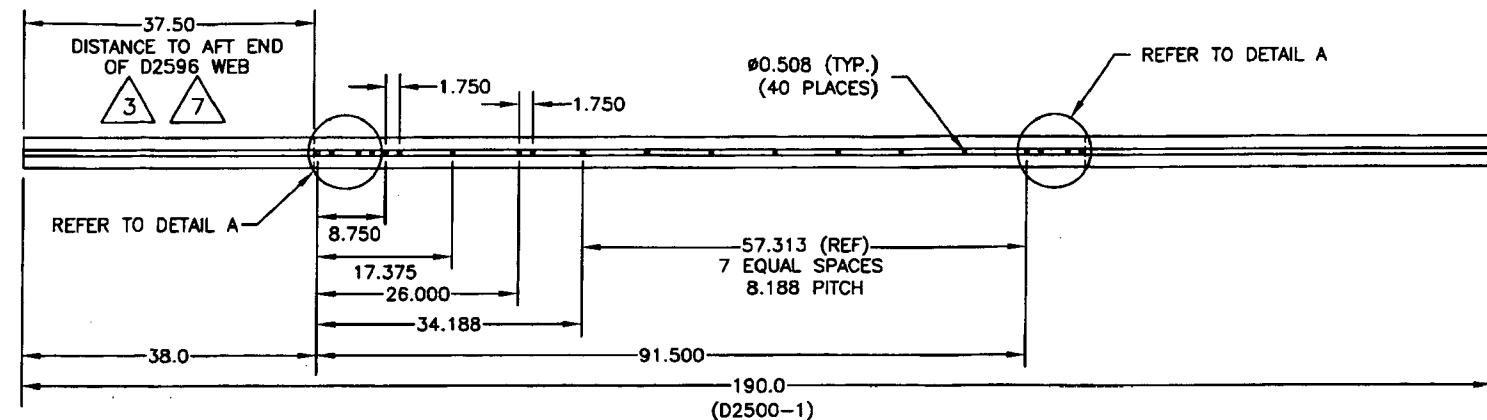
DETAIL A
SCALE 5:24



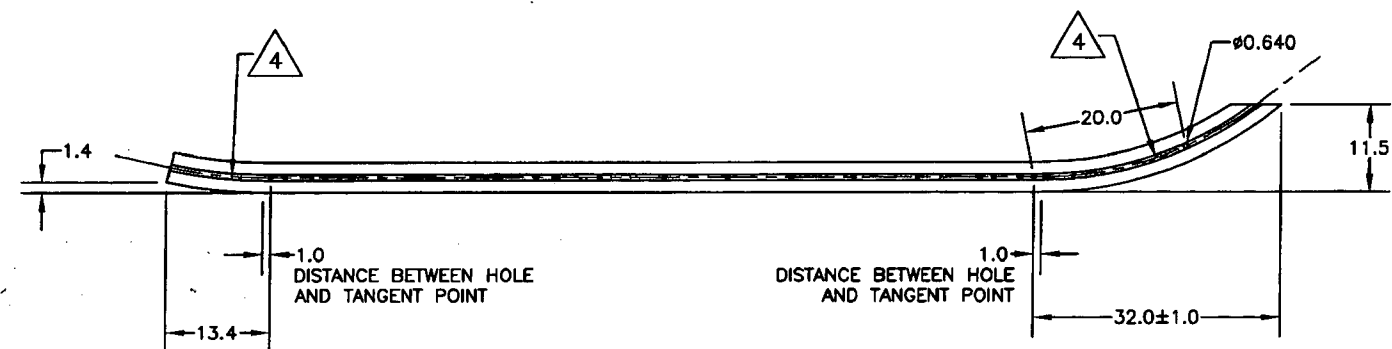
DETAIL B
SCALE 5:24



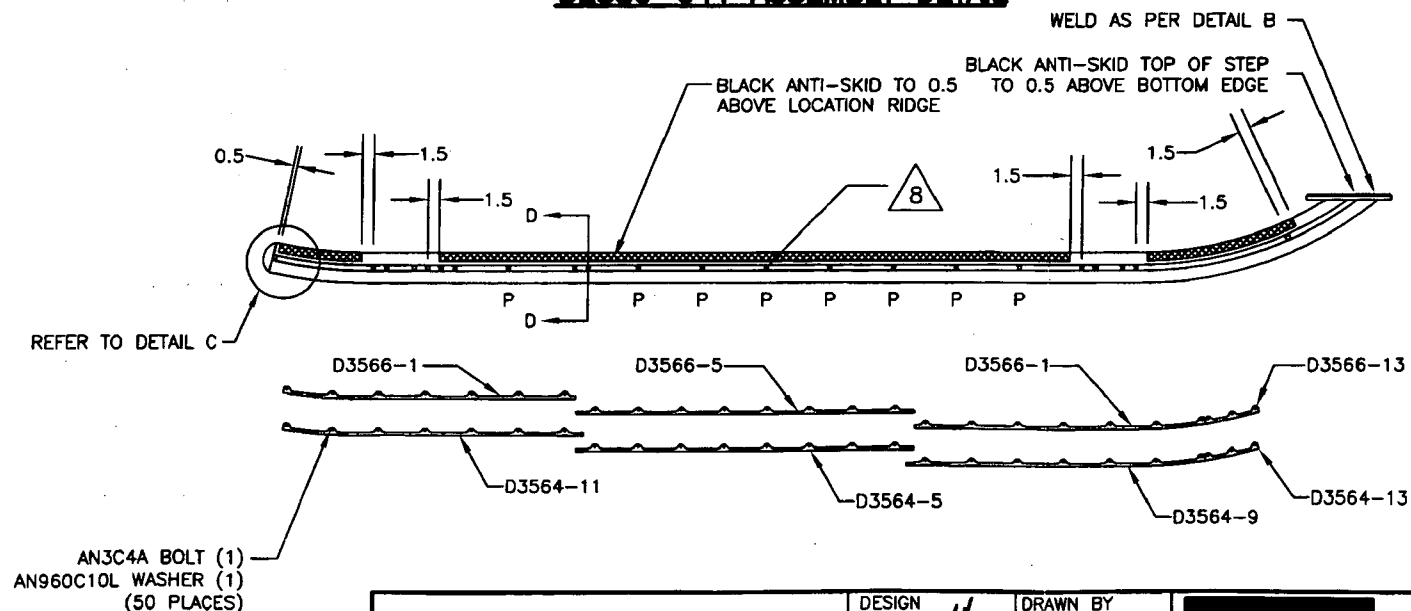
D2580-1 DRILLING DETAIL



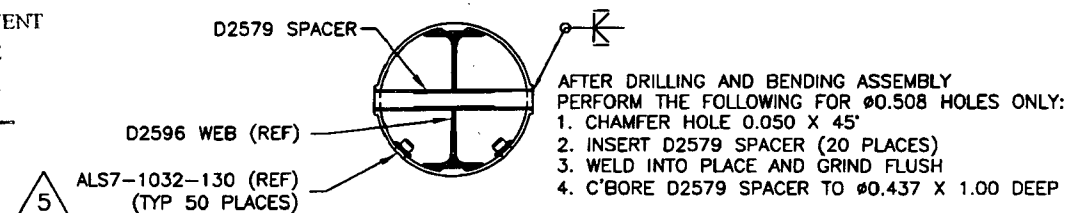
D2580-1 BENDING AND CUTTING DETAIL



D2580-041 ASSEMBLY DETAIL



SECTION D-D
SCALE 5:24



AFTER DRILLING AND BENDING ASSEMBLY PERFORM THE FOLLOWING FOR #0.508 HOLES ONLY:
1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (20 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE D2579 SPACER TO #0.437 X 1.00 DEEP

SHOP COPY
RETURN TO
ENGINEERING
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SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 38377

D2580-041 NOTES

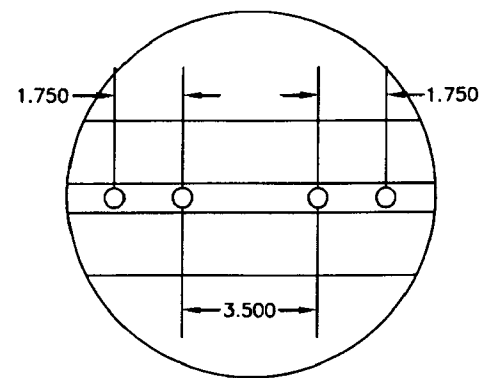
- i) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB
POWDER COAT ASSEMBLY GLOSS WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4

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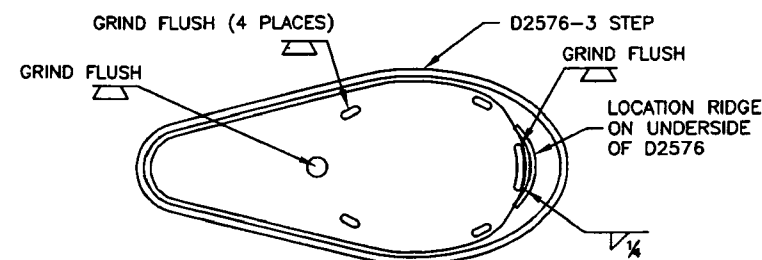
DESIGN	<i>[Signature]</i>	DRAWN BY	<i>[Signature]</i>	DART	DART AEROSPACE LTD. HAWKESBURY, ONTARIO, CANADA
CHECKED	<i>[Signature]</i>	APPROVED	<i>[Signature]</i>	DRAWING NO.	REV. D
DATE	07.02.27	TITLE	205 SKIDTUBE ASSEMBLY	SHEET 2 OF 3	SCALE
					1:24

DETAIL E
SCALE 5:24

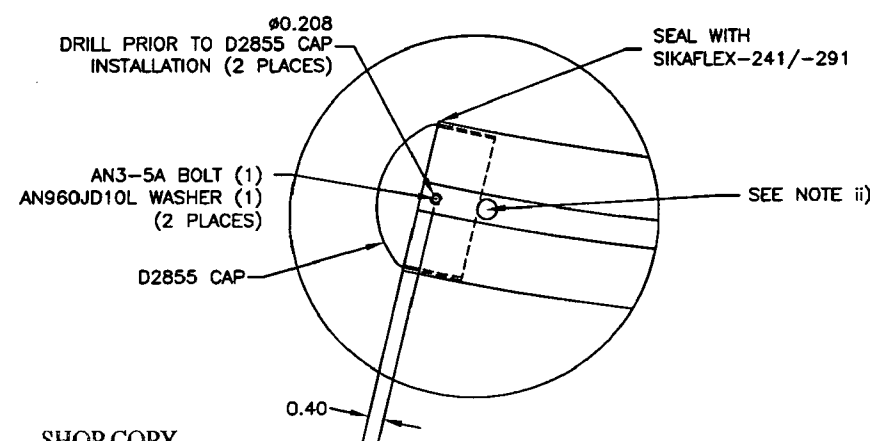


RELEASED
07.02.28

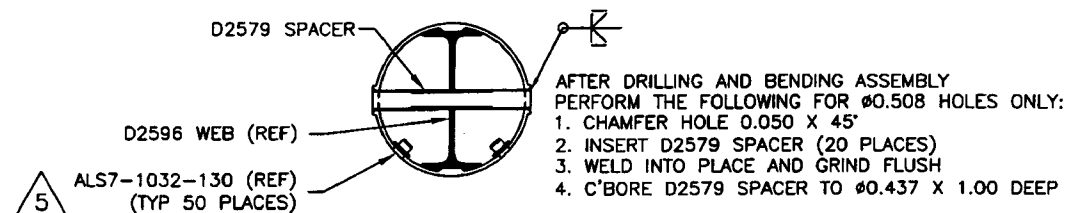
DETAIL F
SCALE 5:24



DETAIL G
SCALE 5:24



SECTION H-H
SCALE 5:24

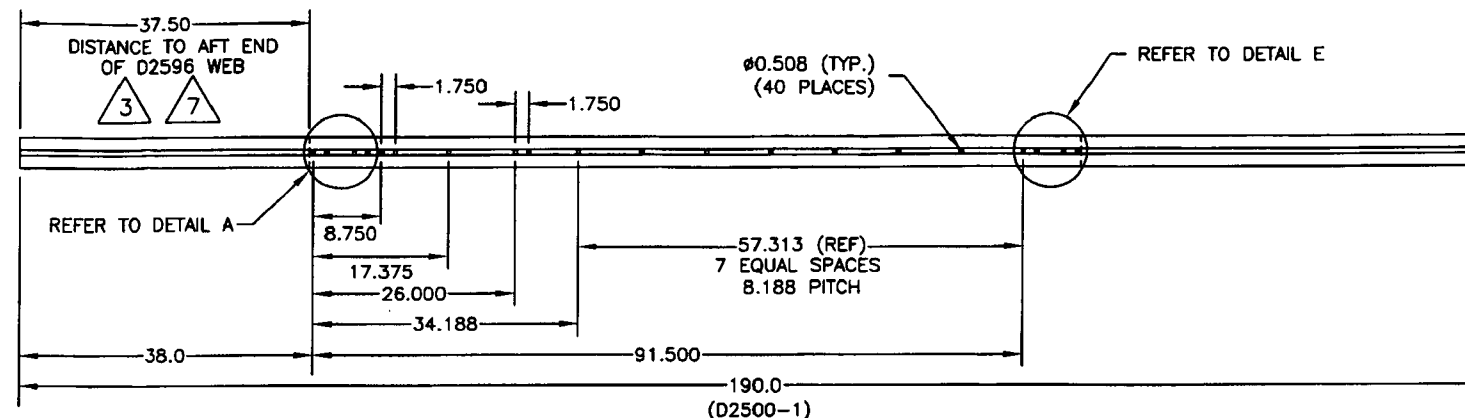


AFTER DRILLING AND BENDING ASSEMBLY PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:
1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (20 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP

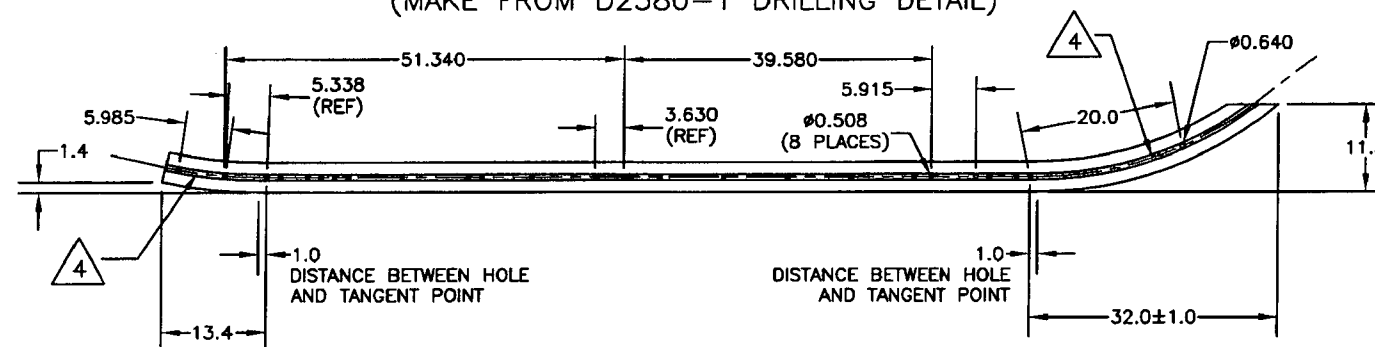
D2580-045 NOTES

- FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB
POWDER COAT ENTIRE ASSEMBLY GREEN (REF. 4.3.5.8) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4
- IT IS ACCEPTABLE TO GRIND A RELIEF IN THE D2855 AFT CAP TO PREVENT INTERFERENCE WITH THE SPACER AT THIS LOCATION

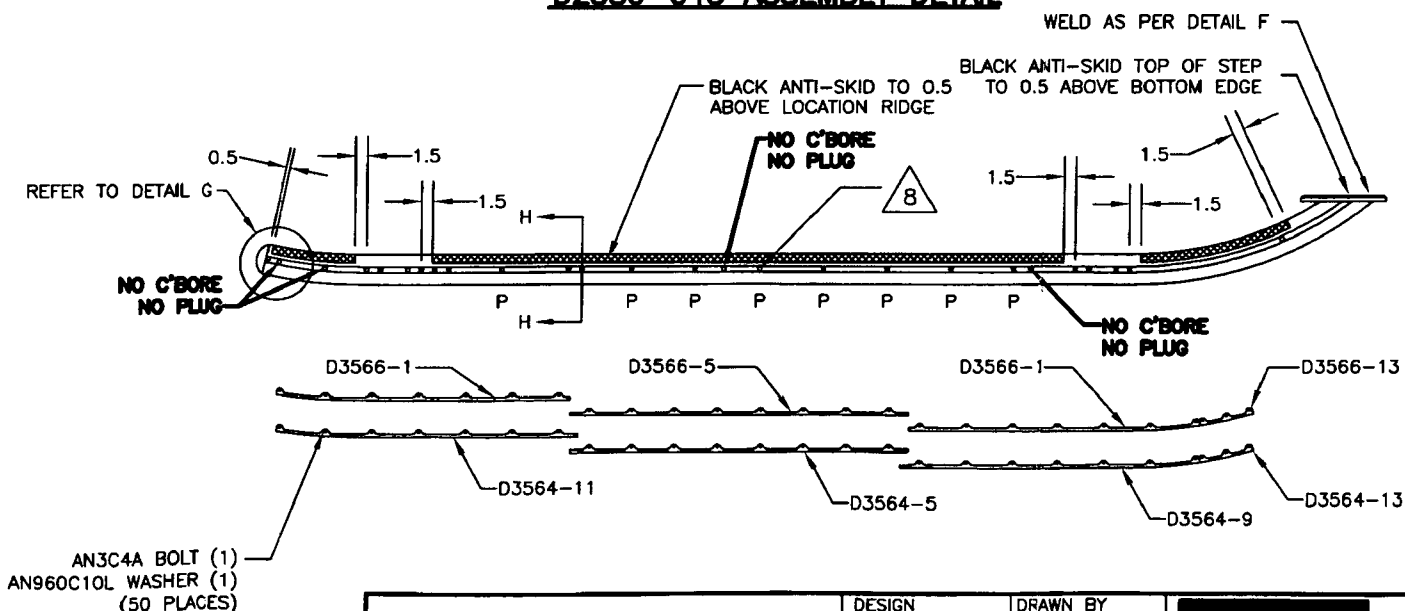
D2580-1 DRILLING DETAIL



D2580-5 BENDING AND CUTTING DETAIL
(MAKE FROM D2580-1 DRILLING DETAIL)



D2580-045 ASSEMBLY DETAIL



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DESIGN RH	DRAWN BY RH	DART	DART AEROSPACE LTD. HAWKESBURY, ONTARIO, CANADA
CHECKED H	APPROVED H	DRAWING NO. D2580	REV. D SHEET 3 OF 3
DATE 07.02.27	TITLE 205 SKIDTUBE ASSEMBLY	SCALE 1:24	

